



NCERT NOTES

GEOGRAPHY

8th Standard



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Resource

Anything that can be used to satisfy a need is called as resource.

Characteristics of Resources:

- **Utility:** Utility or usability is what makes an object or substance a resource.
- **Value:** Its use or utility gives it a value. All resources have some value, and this value may be economic or may not. Some resources become economically valuable over time.
- **Time and technology** are two important factors that can change substances into resources. Both are related to the needs of the people.

Types of Resources:

Resources are classified into **Natural, Human made and Human resources.**

- **Natural Resources:** These are resources that are drawn from Nature and used without much modification. These resources are classified into two types:
 - **Renewable resources** are those which get renewed or replenished quickly. Careless use of certain renewable resources like water, soil, and forest can affect their stock.
 - **Non-renewable resources** are those which have limited stock. Coal, petroleum, and natural gas are some examples.
- **Human Made Resources:** People use natural resources to make buildings, bridges, roads, machinery and vehicles, which are known as human made resources. Technology is also a human made resource.
- **Human Resources:** People can make the best use of nature to create

more resources when they have the **knowledge, skill and the technology** to do so. That's why, people are human resources. Education and health help in making people a valuable resource.

Conserving Resources:

Using resources carefully and giving them time to get renewed is called **resource conservation**. There are various ways to conserve resources such as **reducing consumption, recycling, and reusing things**.

Balancing the need to use resources and also conserve them for the future is called **sustainable development**. Some of the principles of sustainable developments are as follows:

- Respect and care for all forms of life.
- Improve the quality of human life.
- Conserve the Earth's vitality and diversity.
- Minimise the depletion of natural resources.
- Change personal attitude and practices towards the environment.
- Enable communities to care for their own environment.

Interesting Points:

- **Patent:** It means the exclusive right over any idea or invention.
- **Stock of Resource:** It is the amount of resources available for use.
- **Human Resource** refers to the **number (quantity) and abilities (mental and physical)** of the people and skills of human that help in transferring the physical material into a valuable resource.



2

Land, Soil, Water, Natural Vegetation and Wildlife Resources

All the natural resources like land, soil, water and wildlife provide various ecosystem services which make human life easier and possible in following manner.

Land:

- Land is the most important natural resource. It **covers only about 30% of the total area** of the Earth's surface and all parts of this small percentage are not habitable.
- The **uneven distribution of the population** in different parts of the world is **mainly due to varied characteristics of land and climate**.
- The rugged topography, steep slopes of the mountains, low-lying areas susceptible to waterlogging, desert areas, thickly forested areas **are normally sparsely populated** or uninhabited.
- Plains and river valleys offer suitable land for agriculture. Hence, these are the **densely populated areas** of the world.

Land use:

It refers to **the use of land for different purposes** such as agriculture, forestry, mining, building houses, roads, and setting up of industries.

Factors affecting land use pattern:

- **Physical factors**, such as topography, soil, climate, minerals, and availability of water.
- **Human factors**, such as population and technology.

Classification of land based on ownership:

- **Private land ownership:** Private land is owned by individuals.
- **Community land ownership:** Community land is owned by the community for common uses like a collection of fodder, fruits, nuts, or medicinal herbs. These community lands are **also called common property resources**.

Challenges to land resources:

- **Growing demand of the people** despite of limited availability of land.
- **Encroachments in urban areas on common or community lands** for building housing complexes, and to expand the agricultural land in the rural areas.
- Land degradation, landslides, soil erosion, desertification etc. deteriorating the quality of soil.

Measures for conserving land resources:

Afforestation, land reclamation, regulated use of chemical pesticides and fertilizers, and checks on overgrazing are some of the common methods used to conserve land resources.

Soil:

- The **thin layer of grainy substance** covering the surface of the Earth is **called soil**.
- It is closely linked to the land.
- Soil is **made up of organic matter, minerals, and weathered rocks** found on the Earth. This happens through the process of weathering. The right mix of minerals and organic matter makes the soil fertile.

Weathering: The breaking up and decay of exposed rocks, by temperature changes, frost action, plants, animals and human activity.

Factors of Soil formation:

- **Major factors:** Nature of parent rocks and climatic factors.
- **Other factors:** like the topography, role of organic material and time.

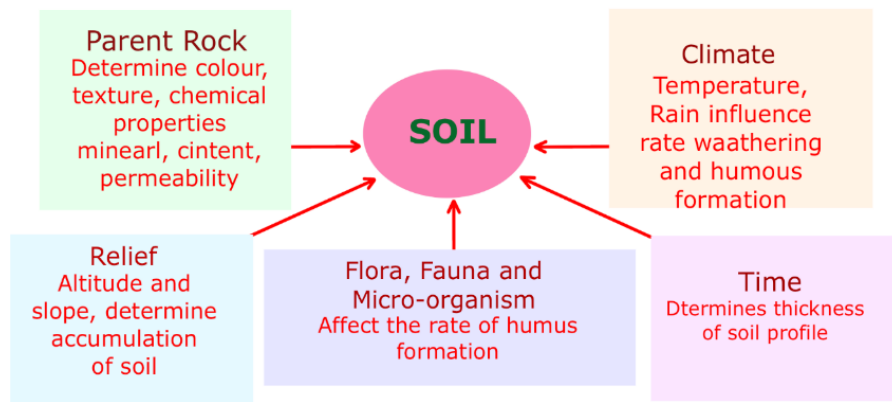


Fig. 2.1: Factors affecting Soil Formation

Factors responsible for Soil Degradation:

- **Natural factors:** Rain wash, landslides, and floods etc.
- **Human factors:** Deforestation, overgrazing, overuse of chemical fertilizers or pesticides etc.

Methods for Soil Conservation:

- **Mulching:** The bare ground between plants is covered with a layer of organic matter like straw. It helps to retain soil moisture.
- **Contour barriers:** Stones, grass, soil are used to build barriers along contours. Trenches are made in front of the barriers to collect water.
- **Rock dam:** Rocks are piled up to slow down the flow of water. This prevents

gullies and further soil loss.

- **Terrace farming:** Broad flat steps or terraces are made on the steep slopes so that flat surfaces are available to grow crops. They reduce surface runoff and soil erosion.
- **Intercropping:** Different crops are grown in alternate rows and are sown at different times to protect the soil from rain wash.
- **Contour ploughing:** Ploughing parallel to the contours of a hill slope to form a natural barrier for water to flow down the slope.
- **Shelterbelts:** In the coastal and dry regions, rows of trees are planted to check the wind movement to protect soil cover.

Landslides:

- Landslides are simply defined as the **mass movement of rock, debris, or earth down a slope**.
- They often take place in conjunction with earthquakes, floods, and volcanoes.
- A **prolonged spell of rainfall can cause heavy landslide** that can block the flow of river for quite some time. The formation of river blocks can cause havoc to the settlements downstream on its bursting.
- In the hilly terrain, landslides have been **a major and widely spread natural disaster** that often strike life and property and occupy a position of major concern.

Mitigation techniques for landslides:

- **Hazard mapping** to locate areas prone to landslides so that such areas can be avoided for building settlements.
- **Construction of retention wall** to stop the land from slipping.
- **Increase in the vegetation cover** to arrest landslide.
- The **surface drainage control works** to control the movement of landslides along with rainwater and spring flows.

Water:

- Water is a **vital renewable natural resource**. Three-fourth of the Earth's surface is covered with water.
- Water **can neither be added nor subtracted** from the Earth. Its total volume remains constant. Abundance of water only seems to vary because it is in constant motion through the process of water cycle.
- The oceans **cover two-thirds of the Earth's surface** and support a rich variety of plant and animal life.
- **Fresh water** accounts for only **about 2.7 per cent**. Nearly 70 per cent of this occurs as ice sheets and glaciers in Antarctica, Greenland and mountain regions.
- Only **1 per cent of freshwater is available and fit for human use**. It is found as

ground water, as surface water in rivers and lakes and as water vapour in the atmosphere.

Problems of Water Availability:

- Countries located in **drought climatic zones are most susceptible** to face great problems of water scarcity. Thus, water shortage may be a consequence of variation in seasonal or annual precipitation or the scarcity is caused by **over-exploitation and contamination of water sources**.
- **Increasing population, rising demands for food and cash crops, increasing urbanisation and rising standards of living** are the major factors leading to shortages in supply of fresh water either due to drying up of water sources or water pollution.

**Major Reason for the pollution of water:**

- **Discharging of untreated or partially treated sewage, agricultural chemicals and industrial effluents** in water bodies.

Methods of conserving water resources:

- **Water Treatment:** Water pollution can be controlled by **treating these effluents suitably** before releasing them in water bodies.
- **Vegetation cover:** Vegetation cover helps in slowing down the surface runoff and replenishes underground water.
- **Water Harvesting:** Water harvesting is another method to save surface runoff.
- **Use of modern irrigation methods** such as proper construction of irrigation canals to reduce water seepage, use of sprinklers and drip irrigation in dry regions etc.

Natural Vegetation and Wildlife:

- **Biosphere:** The narrow zone of contact between the lithosphere, hydrosphere and atmosphere where natural vegetation and wildlife exists is called as **Biosphere**.
- **Ecosystem:** In the biosphere, living beings are inter-related and interdependent on each other for survival. This life supporting system is known as **the ecosystem**.
- **Importance/significance of vegetation:** Vegetation is a valuable resource. Plants provide us with timber, give shelter to animals, produce oxygen we breathe, protects the soils. They also give us fruits, nuts, latex, turpentine oil, gum, medicinal plants etc.
- **Importance/significance of wildlife:** Wildlife includes animals, birds, insects

as well as the aquatic life forms. They provide us milk, meat, hides and wool. Insects like bees provide us honey, help in pollination of flowers and have an important role to play as decomposers in the ecosystem. **Vultures** due to its ability to feed on dead livestock is a **scavenger** and considered a **vital cleanser** of the environment.

Distribution of Natural Vegetation:

Vegetation depends primarily on **temperature** and **moisture**. The major vegetation types of the world are grouped as **forests, grasslands, scrubs, and tundra**.

- **Forests:** These are the areas of heavy rainfall where huge trees may thrive. The vegetation in the forests depends upon the amount of moisture present in the atmosphere. As the amount of moisture decreases, the size of trees and their density reduces.
- **Grasslands:** These are the regions of moderate rainfall where short, stunted trees and grasses grow.
- **Thorny shrubs and scrubs grow in dry areas** of low rainfall. In such areas, plants have deep roots and leaves with thorny and waxy surface to reduce loss of moisture through transpiration.
- **Tundra vegetation:** These are generally found in cold Polar Regions such as mosses and lichens.

Conservation of Natural Vegetation and Wildlife:

Forests are our wealth. Plants give shelter to the animals and together they maintain the ecosystem.

Threats to forest and wildlife:

- **Changes of climate and human interferences** can cause the loss of natural habitats for the plants and animals.
- **Deforestation, soil erosion, constructional activities, forest fires, tsunami and landslides** are some of the human and natural factors which accelerate the process of extinction of these resources.
- One of the major concerns is the **poaching** which result in a sharp decline in the number of particular species.

Steps that need to be taken to conserve forests and wildlife:

- **Establishment of National Parks, Wildlife Sanctuaries and Biosphere Reserves** to protect the natural vegetation and wildlife.
- **Promoting conservation of creeks, lakes, and wetlands** to save the precious resource from depletion.
- **Awareness programmes like social forestry and Vanamohatasava** should be encouraged at the regional and community level.

Interesting Points:

- **Amreli city in Saurashtra region** with a population of 1.25 lakhs is completely

dependent on purchasing water from the nearby talukas.

- **CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora)** is an international agreement between governments. It aims to ensure that international trade in specimens of wild animals and plants does not threaten their survival.
- India is a member to CITES.
- **Biosphere Reserves:** These are series of protected areas linked through a global network, intended to demonstrate the relationship between conservation and development.
- **National Park:** It is a natural area designated to protect the ecological integrity of one or more ecosystems for the present and the future generations.
- **Weathering:** The breaking up and decay of exposed rocks, by temperature changes, frost action, plants, animals and human activity.
- **Rainwater harvesting:** It is the process of collecting rainwater from roof tops and directing it to an appropriate location where it is stored for future use.
- **Diclofenac:** It is a painkiller that is similar to aspirin or ibuprofen, used for livestock. It causes kidney failure and may cause deaths among Vultures.

A naturally occurring substance that has a definite chemical composition is a **mineral**. Minerals and power resources are vital for economic growth and development of a country.

Types of Minerals:

There are over three thousand different minerals. On the basis of composition, minerals are classified mainly as **Metallic and Non-metallic minerals**.

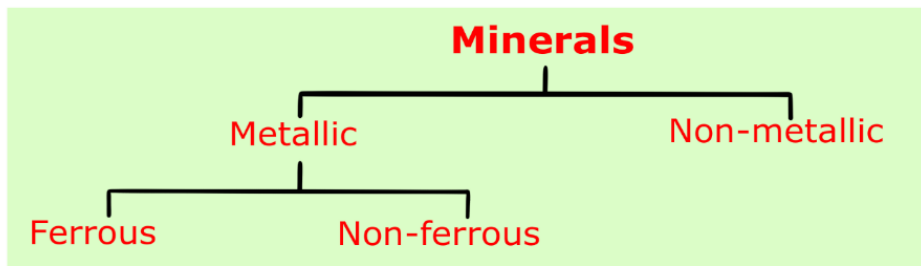


Fig. 3.1: Classification of Minerals

- **Metallic minerals:** These minerals contain metal in raw form. Metals are hard substances that conduct heat and electricity and have a characteristic lustre or shine. Iron ore, bauxite, manganese ore are some examples. Metallic minerals are of two types:
 - **Ferrous minerals:** These minerals contain iron like iron ore, manganese, and chromite.
 - **Non-ferrous minerals:** They do not contain iron but may contain some other metal such as gold, silver, copper, or lead.
- **Non-metallic minerals:** These are the minerals that do not contain metals. For example, Limestone, mica, and gypsum etc.

Mining:

The process of taking out minerals from rocks buried under the Earth's surface is called mining.

Types of Mining:

- **Opencast mining:** Minerals that lie at shallow depths are taken out by removing the surface layer; this is known as open-cast mining.
- **Shaft mining:** Shafts which are also called deep bores, have to be made to reach mineral deposits that lie at great depths. This is called shaft mining.
- **Drilling:** Petroleum and natural gas occur far below the Earth's surface. Deep wells are bored to take them out, this is called drilling.
- **Quarrying:** Minerals that lie near the surface are simply dug out by the process known as quarrying.

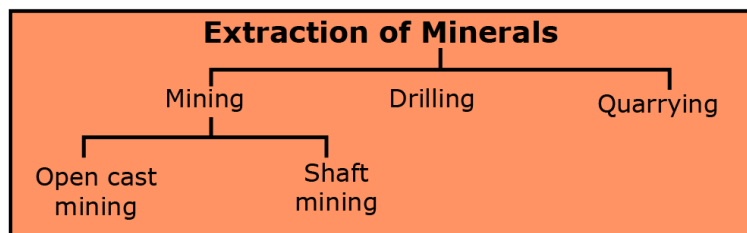


Fig. 3.2: Extraction of Minerals

Distribution of Minerals:

Minerals are found almost in all types of rocks like igneous, metamorphic, and sedimentary rocks.

Metallic Minerals:

These minerals are found in **igneous and metamorphic rock formations** that forms large plateaus. For example,

- Iron-ore in north Sweden,
- Copper and Nickel deposits in Ontario, Canada and
- Iron, Nickel, Chromites and Platinum in South Africa.

Non-Metallic Minerals:

These minerals do not contain metallic content. For example,

- Limestone deposits of **Caucasus region** of France,
- Manganese deposits of Georgia and Ukraine and
- Phosphate beds of Algeria.

Mineral deposits in Asia:

- **Iron:** India and China have **large iron deposits**.
- **Tin:** Countries like **China, Malaysia, and Indonesia** are among the world's leading tin producers.
- **China** also leads in the production of **lead, antimony, and tungsten**.
- Asia also has significant deposits of **manganese, bauxite, nickel, zinc, and copper**.

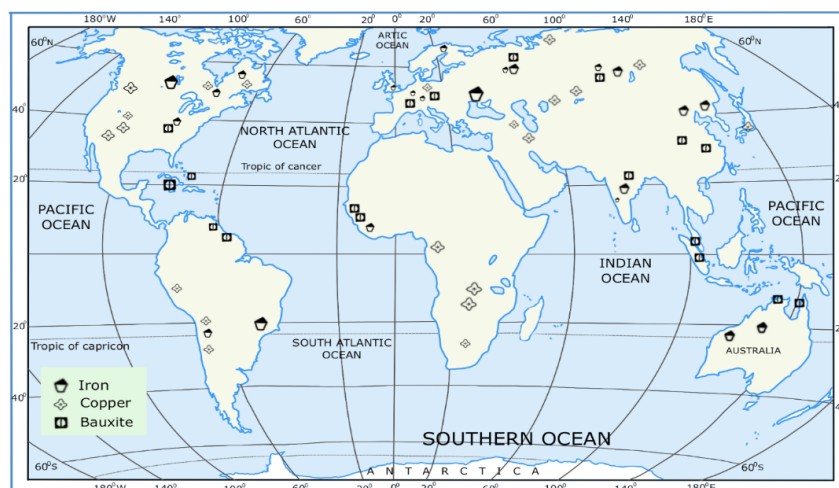


Fig. 3.3: World: Distribution of Iron, Copper and Bauxite

Mineral deposits in Europe:

- Europe is a **leading producer of iron ore** in the world. Countries with large deposits of iron ore are Russia, Ukraine, Sweden, and France.
- **Copper, lead, zinc, manganese, and nickel** are found in eastern Europe and European Russia.

Mineral deposits in North America:

- Located in three zones: the Canadian region north of the Great Lakes, the Appalachian region and the mountain ranges of the west.
 - **Canadian Shield Region:** Iron ore, nickel, gold, uranium, and copper.
 - **Appalachians region:** Coal
 - **Western Cordilleras:** Deposits of copper, lead, zinc, gold, and silver.

Mineral deposits in South America:

- **Iron:** Brazil is the largest producer of high-grade iron ore in the world.
- **Copper:** Chile and Peru are leading producers of Copper.
- **Tin:** Brazil and Bolivia are among the world's largest producers of tin.
- South America has large deposits of gold, silver, zinc, chromium, manganese, bauxite, mica, platinum, asbestos, and diamond.
- Mineral oil is found in **Venezuela, Argentina, Chile, Peru, and Columbia.**

Mineral deposits in Africa:

- Africa is known for the **world's largest producer of diamonds, gold, and platinum.**
- Countries such as South Africa, Zimbabwe, and Zaire produce a large

portion of the world's gold.

- The other minerals found in Africa are copper, iron ore, chromium, uranium, cobalt, and bauxite.
- Oil is found in Nigeria, Libya, and Angola.

Mineral deposits in Australia:

- Australia is the **largest producer of bauxite** in the world.
- It is a leading producer of gold, diamond, iron ore, tin, and nickel.
- It has rich deposits of copper, lead, zinc, and manganese.
- **Kalgoorlie and Coolgardie areas of Western Australia** have the **largest deposits of gold.**

Mineral deposits in Antarctica:

- Deposits of coal in the Transantarctic Mountains and iron near the Prince Charles Mountains of East Antarctica is forecasted.
- Iron ore, gold, silver, and oil are also present in commercial quantities.

Uses of Minerals:

Minerals are used in various industries like,

- Gold, diamonds, silver and precious stones etc are used in gems and jewellery industry.
- Copper is used in everything from coins to pipes.
- Silicon, obtained from quartz, used in the computer industry.
- Aluminium obtained from bauxite, is used in various industries such as automobiles and airplanes, bottling industry, buildings, and even in kitchen cookware.



Fig. 3.4: World: Distribution of Mineral Oil and Coal

Conservation of Minerals:

Minerals are a **non-renewable resource**. The rate of formation of these minerals is much smaller than the rate at which the humans consume these minerals. Thus, it is necessary to reduce wastage in the process of mining. Recycling of metals is another way in which the mineral resources can be conserved.



Fig. 3.5: Recycle, Reuse and Reduce

Powers Resources:

Power or energy plays a vital role in our lives; for example, we need power for industry, agriculture, transport, communication, and defence etc. Power resources may be broadly categorised as **conventional and non-conventional resources**.

Conventional Sources:

Conventional sources of energy **are those which have been in common use for a long time. Firewood and fossil fuels** are the two main conventional energy sources.

- **Firewood:** It is widely used for cooking and heating. In India, **more than fifty per cent** of the energy used by villagers comes from firewood.
- **Fossil fuels:** Remains of plants and animals which were buried under the Earth for millions of years got converted



by the heat and pressure into fossil fuels. For example, **coal, petroleum and natural gas**. The reserves of these minerals are limited.

- **Coal:** This is the most abundantly found fossil fuel. It is used as a domestic fuel, in industries such as iron and steel, steam engines and to generate electricity (thermal power).
 - ◆ The coal was formed millions of years ago when giant ferns and swamps got buried under the layers of Earth. Coal is therefore referred to as **Buried Sunshine**.
 - ◆ **Leading producers of coal in the world:** China, USA, Germany, Russia, South Africa, and France.
 - ◆ **Coal producing areas in India:** Raniganj (West Bengal), Jharia, Dhanbad, and Bokaro (Jharkhand).
- **Petroleum:** It is found between the layers of rocks and is drilled from oil fields located in off-shore and coastal areas. Refineries process the crude oil and produce a variety of products like diesel, petrol, kerosene, wax, plastics, and lubricants. **Petroleum and its derivatives** are called **Black Gold** as they are very valuable.
 - ◆ **Oil-producing countries in the world:** Iran, Iraq, Saudi Arabia, and Qatar. The other major producers are the USA, Russia, Venezuela, and Algeria.
 - ◆ **Leading oil-producing states in**

India: Digboi in Assam, Bombay High in Mumbai, and the deltas of Krishna and Godavari rivers.

- **Natural Gas:** Natural gas is **found with petroleum deposits** and is released when crude oil is brought to the surface.
 - ◆ **Major natural gas producing countries:** Russia, Norway, UK, and the Netherlands are the major producers of natural gas.
 - ◆ **Natural Gas producing areas in India:** Jaisalmer, Krishna Godavari delta, Tripura and some areas offshore in Mumbai.
- **Hydel power:** Rainwater or river water stored in dams is made to fall from heights. The falling water flows through pipes inside the dam over turbine blades placed at the bottom of the dam. The moving blades then turn the generator to produce electricity this is called hydro-electricity. The water discharged after the generation of electricity is used for irrigation.
 - ◆ **Leading countries in hydel power production:** Paraguay, Norway, Brazil, and China.
 - ◆ **Hydel power producing areas in India:** Some important hydel power stations in India are Bhakra Nangal, Gandhi Sagar, Nagarjunasagar, and Damodar valley projects.

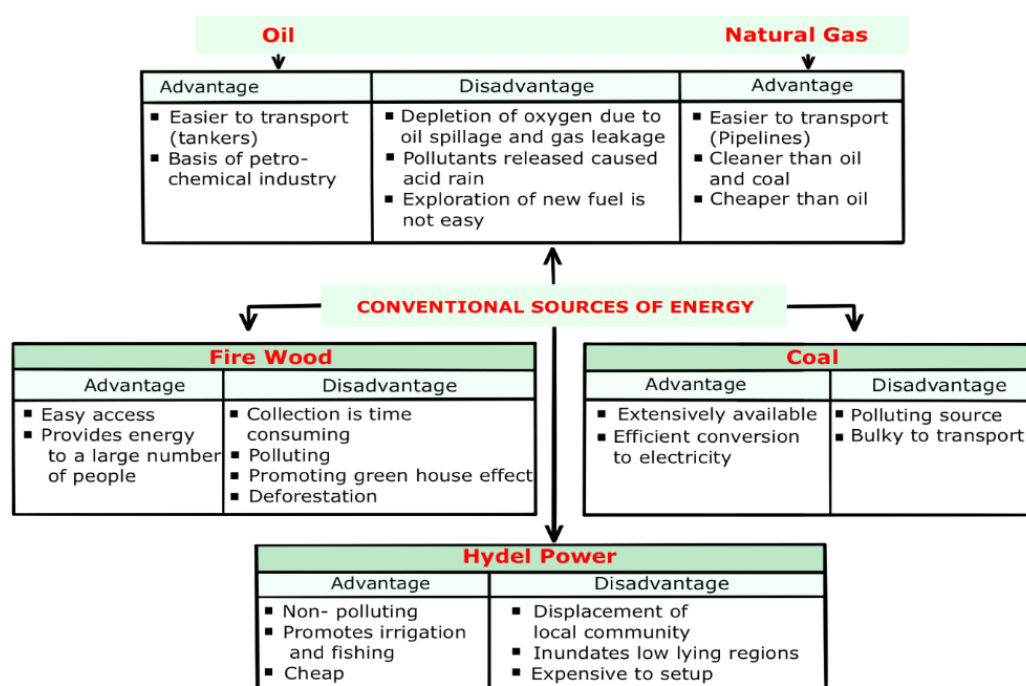


Fig 3.6: Conventional Sources of Energy

Non-conventional Sources of Energy:

Non-conventional energy sources are **mostly renewable** as these energy resources are abundantly available. E.g., solar energy, wind energy and tidal energy.

Solar energy:

The energy received by the Earth from the Sun is called as solar energy.

Uses of solar energy:

- It can be used in solar cells **to produce electricity**. Many of these cells are joined into solar panels to generate power for **heating and lighting purpose**.
- It can also be used in solar heaters, solar cookers, solar dryers besides being

used for community lighting and traffic signals.

Wind Energy:

- Wind is **an inexhaustible source** of energy. Windmills have been used for grinding grain and lifting water from the immemorial times.
- Wind is **used to produce electricity** using the kinetic energy created by air in motion. This is transformed into electrical energy using wind turbines.
- Wind farms having clusters of such windmills are **located in coastal regions and in mountain passes** where strong and steady winds blow.
- Wind farms found in **Netherlands, Germany, Denmark, UK, USA, and**

Spain are noted for their wind energy production.

Nuclear Power:

- It is **obtained from energy stored in the nuclei of atoms** of naturally occurring radioactive elements like **uranium and thorium**. These fuels undergo **nuclear fission in nuclear reactors and emit power**.
- The greatest producers of nuclear power are the **USA and Europe**.
- In India, **Rajasthan and Jharkhand** have large deposits of **Uranium**.
- Thorium** is found in large quantities in the **Monazite sands of Kerala**.
- Some Nuclear power stations of India:
 - Kalpakkam in Tamilnadu
 - Tarapur in Maharashtra
 - Ranapratap Sagar near Kota in Rajasthan
 - Narora in Uttar Pradesh and
 - Kaiga in Karnataka.

Geothermal Energy:

- Heat energy obtained from the Earth is called geothermal energy. Sometimes heat energy may surface itself in the

form of hot springs which can be used to generate power.

- The **USA has the world's largest geothermal power plants** followed by New Zealand, Iceland, the Philippines, and Central America.
- In India, geothermal plants are located in **Manikaran in Himachal Pradesh** and **Puga Valley in Ladakh**.

Uses of geothermal energy:

- Geothermal energy in the form of hot springs can be used for **cooking, heating, and bathing**. Even these areas have become tourist destinations especially in countries like Sweden.

Tidal Energy:

- The energy generated from tides is called tidal energy.
- Tidal energy can be harnessed by building dams at narrow openings of the sea. During high tide, the energy of the tides is used to turn the turbine installed in the dam to produce electricity.
- Russia, France, and the Gulf of Kachchh in India have huge tidal mill farms.

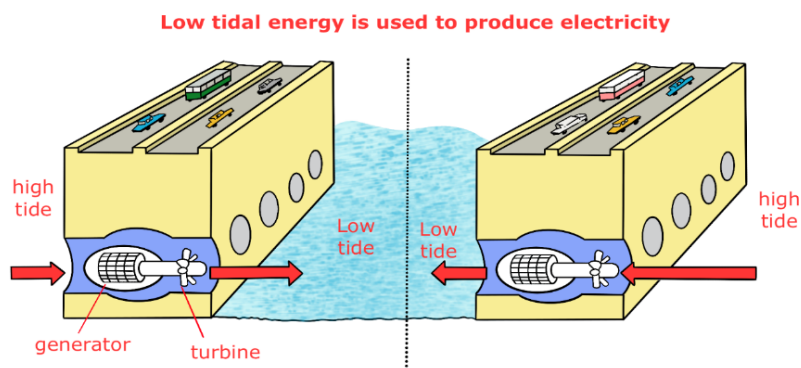


Fig. 3.7: Tidal Energy

**Biogas:**

- Organic waste such as dead plant and animal material, animal dung, and kitchen waste can be converted into a gaseous fuel called biogas.
- Biogas is essentially **a mixture of methane and carbon dioxide**.
- It is an **excellent fuel for cooking and lighting** and produces a huge amount of organic manure each year.

Interesting Points:

- **Rock:** It is an aggregate of one or more minerals but without definite composition of constituent of mineral.
- Rocks, from which minerals are mined are known as **ores**.

- When rock contains copper, it appears blue in colour.
- A **green diamond** is the rarest diamond.
- The **oldest rocks in the world** are in **Western Australia**. They are formed 4,300 million years ago, that means 300 million years after the Earth was formed.
- **Norway was the first country** in the world to develop hydroelectricity.
- The site of the world's first solar and wind powered bus stop is in **Scotland**.
- **Switzerland** has **no known mineral deposits** in it.
- The **first tidal energy station** was built in **France**.

4

Agriculture



The science and art of cultivation on the soil, raising crops and rearing livestock is called Agriculture. It is also called farming.

- It is a **primary activity**.

Different types of economic activities:

The transformation of a plant to a finished product involves three types of economic activities. These are **primary, secondary, and tertiary activities**.

- **Primary activities:** These includes all those activities connected with the **extraction and production of natural resources**. For example, Agriculture, fishing, and gathering etc.
- **Secondary activities:** These are **concerned with the processing of these resources**. For example, manufacturing of steel, baking of bread, and weaving of cloth etc.
- **Tertiary activities:** These **provides support to the primary and secondary sectors** through services. For example, transport, trade, banking, insurance, and advertising etc.

- In the world, 50 per cent of persons are engaged in agricultural activity. **Two-thirds of India's population** is still dependent on agriculture.



Fig. 4.1: World Distribution of Arable Land

Agriculture and Allied Activities:

- **Sericulture:** Commercial rearing of silk worms. It may supplement the income of the farmer.
- **Pisciculture:** Breeding of fish in specially constructed tanks and ponds.
- **Viticulture:** Cultivation of grapes.
- **Horticulture:** Growing vegetables, flowers and fruits for commercial use.
- **Organic Farming:** In this type of farming, organic manure and natural pesticides are used instead of chemicals. No genetic modification is done to increase the yield of the crop.

Farm System:

Agriculture or farming can be looked at as a system as it includes all the important activities such as:

- **Inputs** like seeds, fertilizers, machinery, and labour.
- **Operations involved** like ploughing, sowing, irrigation, weeding, and harvesting.
- **Outputs** like crops, wool, dairy, and poultry products.

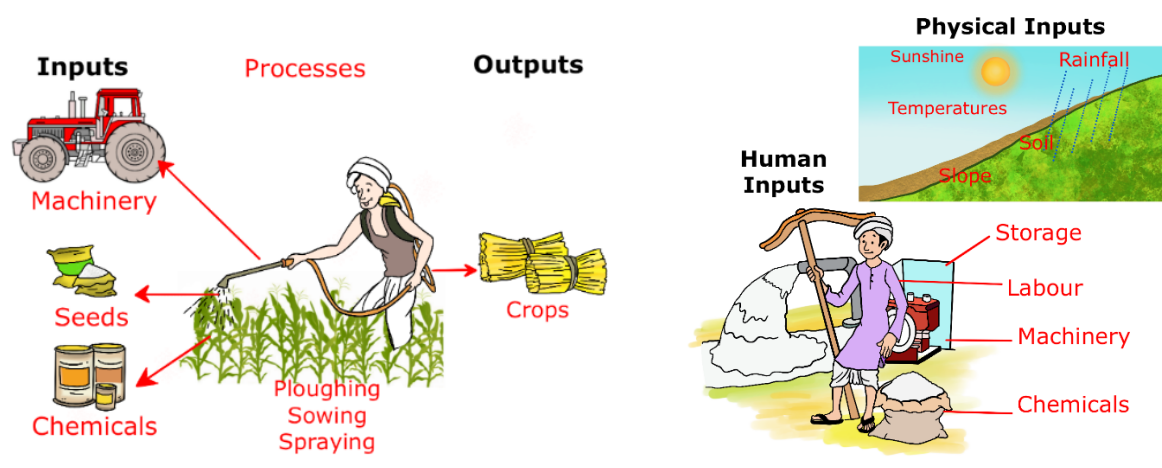


Fig. 4.2: The farm system of an arable farm and Physical and human farm inputs

Types of Farming:

Depending upon the geographical conditions, the demand for produce, labour and level of technology, farming can be classified into two main types: **Subsistence farming and Commercial farming.**

- **Subsistence Farming:** It is practiced meeting the needs of the farmer's family.

Traditionally, **low levels of technology and household labour** are used to produce small output. It can be further classified as **Intensive subsistence and Primitive subsistence farming.**

Intensive Subsistence Agriculture:

- ♦ The farmer cultivates a small plot of land using simple tools and more labour.

- ◆ Factors such as the climate with a large number of days of sunshine and fertile soils permit the growing of more than one crop annually on the same plot.
- ◆ **Crops grown in intensive subsistence farming:** Rice is the main crop. Other crops include wheat, maize, pulses, and oilseeds.
- ◆ This type of agriculture **practised in thickly populated areas** of monsoon regions of the south, southeast, and East Asia.
- **Primitive Subsistence Agriculture:** It includes shifting cultivation and nomadic herding.
 - ◆ **Shifting cultivation:**
 - It is **practised in the thickly forested areas** of the Amazon basin, tropical Africa, parts of Southeast Asia, and Northeast India.
 - These are the areas of heavy rainfall and quick regeneration of vegetation.
 - It is also known as **Slash and burn agriculture** as a plot of land is cleared by felling the trees and burning them. The ashes are then mixed with the soil and **crops like maize, yam, potatoes, and cassava** are grown.
 - After the soil loses its fertility, the land is abandoned, and the cultivator moves to a new plot.
 - ◆ **Nomadic Herding:**
 - It is **practised in the semi-arid and arid regions** of Sahara, Central Asia, and some parts of India, like Rajasthan and Jammu and Kashmir.
 - In this type of farming, herdsman **move from place to place** with their animals for fodder and water, along defined routes.
 - Movement arises in response to **climatic constraints and terrain. Sheep, camel, yak, and goats** are most commonly reared.
- **Commercial Farming:** In commercial farming, **crops are grown and animals are reared** for sale in market. The **area cultivated and the amount of capital** used is **large**. Most of the work is done by machines. Commercial farming includes **commercial grain farming, mixed farming and plantation agriculture.**
 - **Commercial Grain Farming:**
 - ◆ In this farming, crops are **grown for commercial purpose**. Wheat and maize are common commercially grown grains.
 - ◆ Areas where commercial grain farming is practiced are **temperate grasslands of North America, Europe and Asia.**
 - ◆ These areas are **sparsely populated with large farms** spreading over hundreds of hectares. Severe winters restrict the growing season and only a single crop can be grown.
 - **Mixed farming:**
 - ◆ In this farming, the land is used for **growing food and fodder**

crops and rearing livestock.

- ◆ It is practised in Europe, eastern USA, Argentina, southeast Australia, New Zealand, and South Africa.
- **Plantation:**
 - ◆ In this farming, a **single crop** of tea, coffee, sugarcane, cashew, rubber, banana, or cotton are **grown**.
 - ◆ **Large amount of labour and capital** are required.
 - ◆ Major plantations are **found in the tropical regions** of the world. For example, Rubber in Malaysia, coffee in Brazil, tea in India and Sri Lanka etc.

Major Crops:

A large variety of crops are grown to meet the requirement of the growing population. Crops also supply raw materials for agro-based industries. Major food crops are **wheat, rice, maize and millets**. **Jute and cotton** are fibre crops. Important beverage crops are **tea and coffee**.

Food Crops**Rice:**

- Rice is the **major food crop** of the world. It is **staple diet** of the tropical and subtropical regions.
- **Climatic conditions:** High temperature, high humidity, and rainfall. It grows best in alluvial clayey soil, which can retain water.
- **Largest producers:** China leads in the production of rice followed by India, Japan, Sri Lanka, and Egypt.

- It is **produced 2 or 3 times in a year** in West Bengal and Bangladesh because of the favourable climatic conditions.

Wheat:

- It requires **moderate temperature and rainfall** during the growing season and **bright sunshine** at the time of harvest.
- **Necessary conditions:** Well-drained loamy soil.
- **Major wheat producing countries:** USA, Canada, Argentina, Russia, Ukraine, Australia, and India.

Millets:

- They are also known as **coarse grains**. For example, Jowar, bajra, and ragi grown in India.
- **Necessary Climatic conditions:** Low rainfall and high to moderate temperature.
- It can be **grown on less fertile and sandy soils**.
- It is also grown in countries such as Nigeria, China, and Niger.

Maize:

- Maize is also known as **corn**.
- **Necessary Conditions:** Moderate temperature, rainfall, lots of sunshine, and well-drained fertile soil.
- **Major maize producing countries:** North America, Brazil, China, Russia, Canada, India, and Mexico.

Fibre Crops

Fibre crops are **important raw material for textile industries** and making jute bags and other products.

Cotton:

- Cotton is an important raw material for cotton textile industries.
- **Necessary Conditions:** High temperature, light rainfall, 210 frost-free days, and bright sunshine for its growth. It grows best on black and alluvial soils.
- **Major Cotton producing countries:** China, the USA, India, Pakistan, Brazil, and Egypt.

Jute:

- Jute was also known as the '**Golden Fibre**'.
- **Necessary Conditions:** It grows well on alluvial soil and requires high temperature, heavy rainfall, and a humid climate. This crop is grown in tropical areas.
- **India and Bangladesh** are the leading producers of jute.

Beverage Crops

Coffee:

- **Necessary conditions:** It requires a warm and wet climate and well-drained loamy soil. Hill slopes are more suitable for the growth of this crop.

- **Major coffee producing countries:** Brazil is the leading producer followed by Columbia and India.
- India is known for its best varieties of coffee, **Arabica and Robusta**.

Tea:

- It was **originated in China** and Britishers brought it to India. Tea is a **beverage crop** grown on plantations.
- **Necessary Conditions:** It requires a cool climate and well-distributed high rainfall throughout the year for the growth of its tender leaves. It needs well-drained loamy soils and gentle slopes.
- **Huge labour** is required to pick the leaves.
- **Major tea producing countries:** Kenya, India, China and Sri Lanka.

Agricultural Development:

- It refers to **efforts made to increase farm production** in order to meet the growing demand of the increasing population.
- The ultimate aim of agricultural development is **to increase food security**.

Food security means when all people, at all times, have access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.

Ways to achieve agricultural development and food security:

- Increasing the cropped area and the number of crops grown,
- Improving irrigation facilities,
- Use of fertilizers,

- High yielding variety of seeds and
- Mechanization of agriculture.

Interesting Points:

- **Arable land:** The land on which the crops are grown is known as **arable land**.



-
- **Shifting cultivation** is known by different names in different parts of the world,
 - **Jhumming** in North-East India.
 - **Milpa** in Mexico.
 - **Roca** in Brazil.
 - **Ladang** in Malaysia.
 - **Discovery of Coffee:** In about AD 850, Kaldi, an Arab goat-herder, who was puzzled by the queer antics of his flock, tasted the berries of the evergreen bush on which the goats were feeding. On experiencing a sense of exhilaration, he proclaimed his discovery to the world.

Industry refers to **an economic activity that is concerned with production of goods, extraction of minerals or the provision of services**. For example, iron and steel industry (production of goods), coal mining industry (extraction of coal) and tourism industry (service provider).

Classification of Industries:

Industries can be classified on the basis of **raw materials, size, and ownership**.

- **Raw Materials:**

Industries may be agro-based, mineral-based, marine-based, and forest-based depending on the type of raw materials they use.

- **Agro-based industries:** They use **plant and animal-based products** as their raw materials. For example, food processing, vegetable oil, cotton textile, dairy products, and leather industries.

- **Mineral-based industries:** These are **primary industries** that use mineral ores as their raw materials. The products of these industries feed other industries, such as Iron made from iron ore is the product of mineral based industry. This is used as raw material for the manufacture of a number of other products, such as heavy machinery, building materials and railway coaches.

- **Marine based industries:** These industries **use products from the sea and oceans** as raw materials. For example, seafood processing or fish oil manufacturing industries etc.

- **Forest-based industries:** These industries utilise forest produce as raw materials. For example, pulp and paper, pharmaceuticals, furniture, and buildings.

- **Size:**

It refers to the amount of capital invested, the number of people employed, and the volume of production. Based on the size, industries can be classified into **small scale and large-scale industries**.

- **Small Scale Industries:**

- ◆ **Cottage or household industries** are a type of small-scale industry where the products are manufactured by hand, by the artisans.

- ◆ These small-scale industries **use lesser amount of capital and technology**.

- ◆ For example, Basket weaving, pottery, and other handicrafts, silk weaving, food processing industries etc.

- **Large Scale Industries:**

- ◆ These industries **produce large volumes of products**.

- ◆ **Higher capital investment and superior technology** is required in these industries.

- ◆ For example, automobiles and heavy machinery industries etc

- **Ownership:**

Industries can be classified into **private sector, state owned or public sector, joint sector and cooperative sector**.

- **Private sector industries:** These industries are owned and operated by individuals or a group of individuals.

- **State-owned or public sector industries:** These industries are owned and operated by the government, such as Hindustan Aeronautics Limited and Steel Authority of India Limited.
- **Joint sector industries:** These industries are owned and operated by the state and individuals or a group of individuals. For example, Maruti Udyog Limited etc.
- **Cooperative sector industries:** These industries are owned and operated by the producers or suppliers of raw materials, workers or both. For example, **Anand Milk Union Limited and Sudha Dairy.**

Factors affecting the location of Industries:

The factors affecting the location of industries are as follows:

- Availability of raw material, land, water, labour, power, capital, transport and market.
 - The government incentives like subsidised power, lower transport cost and other infrastructure to promote the development of backward areas.
- Industries are often situated where some or all of these factors are easily available.

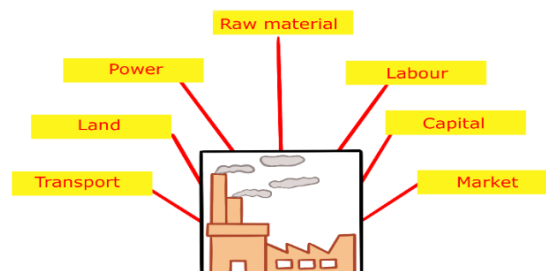


Fig. 5.1: Locational factors for Industries

Industrial System:

An industrial system consists of **inputs, processes, and outputs.**

- **The inputs** are the raw materials, labour, and costs of land, transport, power, and other infrastructure.
- **The processes** include a wide range of activities that convert the raw material into finished products.
- **The outputs** are the end product and the income earned from it.

Industrial Regions:

Industrial regions are those regions where a large number of industries located close to each other and share the benefits of their closeness. These regions tend to be located in the temperate areas, near seaports, and especially near coalfields.

Major industrial regions of the world:

Eastern North America, western and central Europe, Eastern Europe, and eastern Asia.

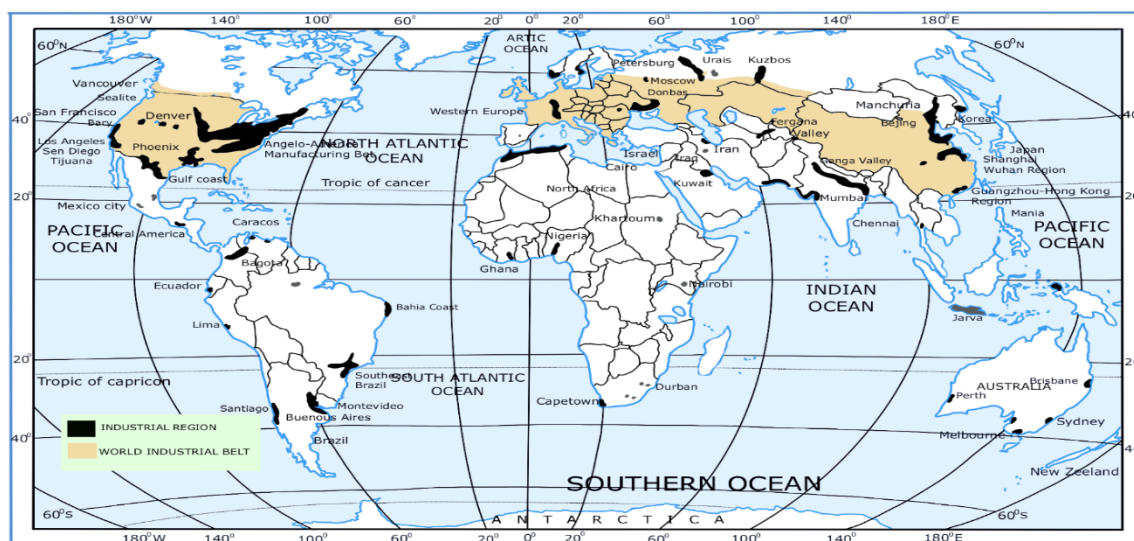


Fig. 5.2: Major industrial regions of the World

Industrial regions in India: India has several industrial regions like

- The Mumbai-Pune Cluster.
- Bangalore-Tamil Nadu Region.
- Hugli Region.
- Ahmedabad-Baroda Region.
- Chottanagpur industrial Belt.
- Vishakhapatnam-Guntur Belt.
- Gurgaon-Delhi-Meerut Region.
- The Kollam - Thiruvananthapuram Industrial Cluster.

Distribution of Major Industries:

The world's major industries and their distribution is as follows:

Iron and Steel Industry: Germany, USA, China, Japan and Russia.

Textile Industry: India, Hong Kong, South Korea, Japan and Taiwan.

Information technology Industry: The Silicon Valley of Central California and the Bangalore region of India.

Iron and Steel Industry:

- It is a **feeder industry** whose products are used as raw material for other industries.
- **Inputs for the Industry:** It includes important raw materials such as iron ore, coal, and limestone, along with labour, capital, site, and other infrastructure.
- The process of converting iron ore into steel involves many stages.
 - The raw material is put in the **blast furnace** where it undergoes smelting and is then refined. The output obtained is steel.
- Steel is often called the **backbone of modern industry** as almost everything is either made of iron or steel or has been made with tools and machinery of these metals.
 - Steel is tough, can easily be shaped, cut, or made into wire.

- Special alloys of steel can be made by adding small amounts of other metals such as aluminium, nickel, and copper which gives steel an unusual hardness, toughness, or ability to resist rust.
- **Location of Iron and Steel industry:**
 - **Before 1800:** These were located where raw materials, power supply and running water were easily available.
 - Later the ideal location was near coal fields and close to canals and railways.
 - **After 1950:** It began to be located on large areas of flat land near seaports because by this time steel works had become very large and iron ore had to be imported from overseas.

Iron and Steel industry in India:

- **Advantages:** This industry has developed taking advantage of raw materials, cheap labour, transport and market.
- **Important Steel-producing centres:** Bhilai, Durgapur, Burnpur, Jamshedpur, Rourkela, Bokaro are situated in a region that spreads over four states — **West Bengal, Jharkhand, Odisha, and Chhattisgarh.**
- Bhadravati and Vijay Nagar in Karnataka, Vishakhapatnam in Andhra Pradesh, and Salem in Tamil Nadu are other important steel centres utilizing local resources.

The Iron and Steel plant of Jamshedpur:

- Before 1947, there was only one iron and steel plant in India – Tata Iron and Steel Company Limited (TISCO) and It was privately owned.

- TISCO was started in 1907 at **Sakchi**, near the confluence of the rivers Subarnarekha and Kharkai in Jharkhand. Later, Sakchi was renamed as Jamshedpur.
- **Favourable conditions in Sakchi to set up Steel plant:**
 - This place was only 32 km away from Kalimati station on the Bengal-Nagpur railway line.
 - It was close to the iron ore, coal and manganese deposits as well as to Kolkata, which provided a large market.
 - TISCO, gets coal from Jharia coalfields, and iron ore, limestone, dolomite and manganese from Odisha and Chhattisgarh.
 - The Kharkai and Subarnarekha rivers ensured sufficient water supply.
 - Government initiatives provided adequate capital for its later development.

Pittsburgh - Important Steel city of the United States of America

It has some locational advantages:

- Coal is locally available while the iron ore comes from the iron mines at Minnesota, about 1500 km from Pittsburgh.
- There exists one of the world's best routes for shipping ore cheaply – **the famous Great Lakes waterway** between these mines and Pittsburgh.
- The Ohio, the Monogahela and Allegheny rivers provide adequate water supply.

Textile Industry:

- The textile industry can be divided on the basis of raw materials used in them.

- Fibres are the raw material of textile industry.
- **Types of Fibres:**
 - **Natural fibres:** These are obtained from wool, silk, cotton, linen and jute.
 - **Man-made fibres:** It includes nylon, polyester, acrylic and rayon.

Cotton Textile Industry:

- Till the Industrial Revolution in the 18th century, cotton cloth was made using hand spinning techniques (wheels) and looms.
- In 18th century power looms facilitated the development of cotton textile industry, first in Britain and later in other parts of the world.
- Today India, China, Japan and the USA are important producers of cotton textiles.
- Before the British rule, Indian hand spun and hand-woven cloth already had a wide market. The **Muslins** of Dhaka,

Chintzes of Masulipatnam, **Calicos** of Calicut and **Gold-wrought cotton** of Burhanpur, Surat and Vadodara were known worldwide for their quality and design.

Mechanized Industrial units:

- The **first** successful mechanized textile mill was established in Mumbai in **1854**.
- The warm, moist climate, a port for importing machinery, availability of raw material and skilled labour resulted in rapid expansion of the industry in the region.
- Initially this industry flourished in the states of Maharashtra and Gujarat because of favourable humid climate.
- But today, humidity can be created artificially, and raw cotton is a pure and not weight losing raw material, so this industry has spread to other parts of India such as Coimbatore, Kanpur, Chennai, Ahmedabad, Mumbai, etc.

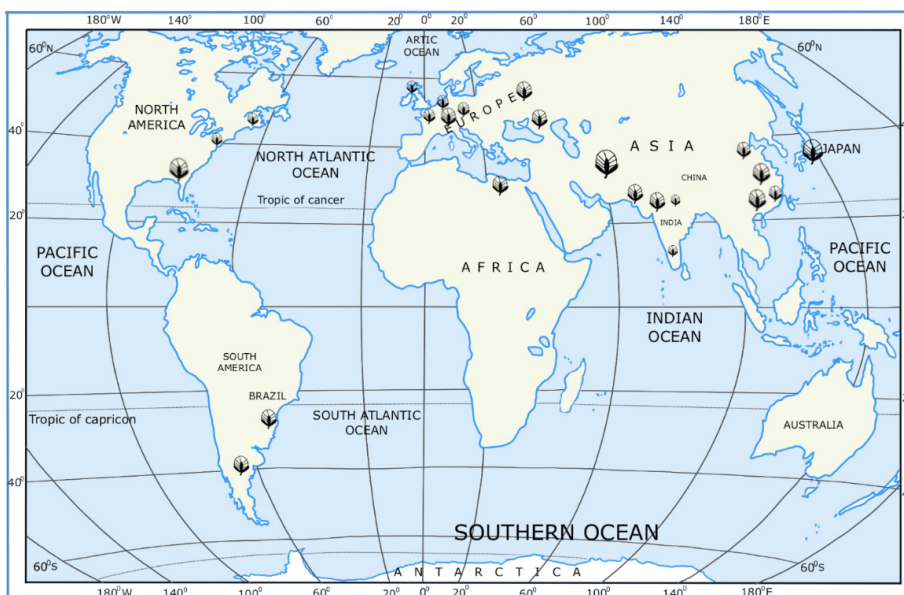


Fig. 5.3: Major Cotton textile manufacturing regions in the World

Ahmedabad Textile Mills:

- It is located in Gujarat on the banks of the Sabarmati river.
- The **first mill** was established in **1859**.
- After Mumbai, Ahmedabad soon became the second largest textile city of India and was therefore often referred to as the '**Manchester of India**'.
- **Favourable locational factors in Ahmedabad:**
 - **Availability of Raw material:** It is situated very close to cotton growing area.
 - **Ideal Climate:** The climate is ideal for spinning and weaving.
 - **Ideal terrain:** The flat terrain and easy availability of land is suitable for the establishment of the mills.
 - **Availability of Labour:** The densely populated states of Gujarat and Maharashtra provide both skilled and semi-skilled labour.
 - **Infrastructure:** Well-developed road and railway network permits easy transportation of textiles to different parts of India, thus providing easy access to the market. Mumbai port nearby facilitates import of machinery and export of cotton textiles.

Osaka Textile Mills: It is an important textile centre of Japan, also known as the '**Manchester of Japan**'. The textile industry developed in Osaka due to several geographical factors:

- The extensive plain ensured that land was easily available for the growth of cotton mills.
- **Climate:** Warm humid climate is well suited to spinning and weaving.

- The river Yodo provides sufficient water for the mills.
- **Availability of Labour:** Labour is easily available.
- **Infrastructure:** Location of port facilitates import of raw cotton and for exporting textiles.
- The textile industry at Osaka depends completely upon imported raw materials.

Interesting Points:

- The term 'textile' is derived from the Latin word '**texere**' which means to weave.
- The **first textile mill** in India was established at Fort Gloster near Kolkata in **1818**.
- About one-third of the Indian textile industry's total production is exported.
- **Emerging industries:** These are also known as '**Sunrise Industries**' and include Information technology, Wellness, Hospitality and Knowledge.
- **Smelting:** It is the process in which metals are extracted from their ores by heating beyond the melting point.
- The names of **Great Lakes** are Superior, Huron, Ontario, Michigan and Erie. Lake Superior is the largest of these five lakes.
- **Bhopal Gas Tragedy:** It was one of the worst industrial disasters of all time occurred in Bhopal on 3 December 1984. It was a technological accident in which highly poisonous Methyl Isocyanate (MIC) gas along with Hydrogen Cyanide and other reactive products leaked out of the pesticide factory of Union Carbide.



Human resource is the ultimate resource as nature's bounty becomes significant only when people find it useful. It is people with their demands and abilities that turn them into 'resources'.

Distribution of Population:

- **Pattern of Population Distribution:** The way in which **people are spread** across the Earth's surface.
- More than 90 per cent of the world's population lives in about 30 per cent of the land surface.
- **Uneven Distribution:** Some areas are very crowded such as south and south east Asia and some are sparsely populated such as in tropical deserts, high mountains etc. Almost three-quarters of the world's people live in two continents Asia and Africa.

Population Density:

- Population density is the **number of people living in a unit area** of the Earth's surface. It is normally **expressed as people per square km**.
- The **average density** of population in the whole world is **51 persons per square km**.
- **South Central Asia** has the **highest density of population** followed by East and South East Asia.

Factors affecting the Distribution of Population

- **Geographical Factors:**
 - **Topography:** Humans prefer to live on plains than mountains as these areas are suitable for farming, manufacturing, and service

activities. The Ganga plains are the most densely populated areas in the world.

- **Climate:** Humans avoid living in extreme climates that are very hot or very cold.
- **Soil:** Fertile soils provide suitable land for agriculture. For example - Ganga and Brahmaputra in India, Hwang-He, Chang Jiang in China, and the Nile in Egypt.
- **Water:** Humans prefer to live in the areas where fresh water is easily available.
- **Minerals:** Areas with mineral deposits are more populated. Diamond mines of South Africa and discovery of oil in the Middle east lead to settling of people in these areas.
- **Social, Cultural, and Economic Factors:**
 - **Social:** Areas of better housing, education and health facilities are more densely populated.
 - **Cultural:** Places with religion or cultural significance. For example - Varanasi.
 - **Economic:** Industrial areas provide employment opportunities. Large number of people are attracted to these areas.

Population Change:

Population change refers to **a change in the number of people during a specific time**. This is due to changes in the number of births and deaths. Births and deaths are the natural causes of population change.

- **Natural Way:**

- **Birth Rate:** The number of live births per 1,000 people.
- **Death Rate:** The number of deaths per 1,000 people.
- **Natural Growth Rate:** The difference between the birth rate and the death rate of a country.

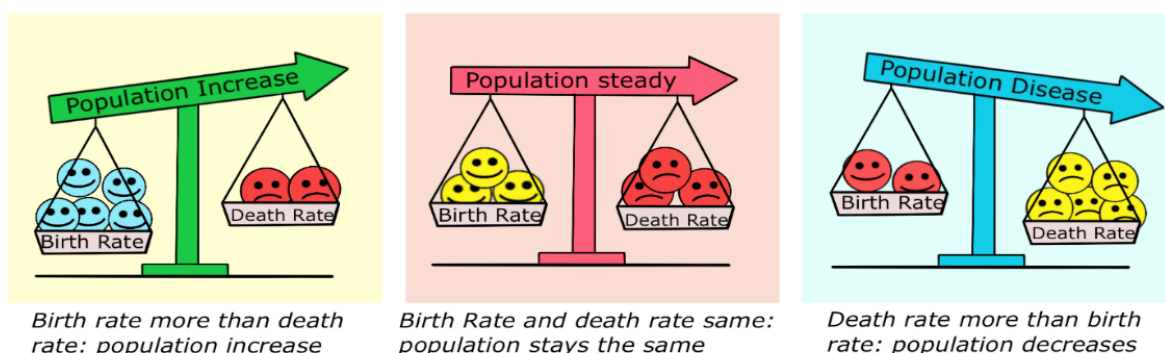


Fig. 6.1: Balance of Population

- **Migrations:**
 - It is the movement of people in and out of an area.
 - People may move within a country or between countries.
 - **Emigrants** are people who **leave** a country (loss in population) and **Immigrants** are those who **arrive** in a country (gain in population).
- **Population Composition:**
 - **Population composition** refers to the **structure** of the population.
 - People vary greatly in their age, sex, literacy level, health condition, occupation, and income level. It is essential to understand these characteristics of the people.
 - The composition of population helps us to know about the numbers of male and female, age group composition, literacy level, occupation and income, health conditions etc.
- An interesting way of studying the population composition of a country is by looking at the **population pyramid**, also called an **age-sex pyramid**.
 - It shows:
 - ◆ The **total population divided into various age groups** like 5 to 9 years, 10 to 14 years.
 - ◆ The **percentage of the total population subdivided into males and females**, in each of age groups.

The shape of the Population Pyramid:

It tells the story of the people living in that particular country.

- Numbers of children (below 15 years) are shown at the bottom and reflect the level of births.
- The size of the top shows the numbers of aged people (above 65 years) and reflects the number of deaths.

- It tells about the dependent populations in a particular country— **young dependents** (aged below 15 years) and **elderly dependents** (aged over 65 years).
- There is a working population group between both the dependent population age groups, which is also known as **economically active group**.

Some general patterns found in Population Pyramids:

- The population pyramid of a country in which birth and death rates are high, is broad at the base and rapidly narrows towards the top. For Example - Kenya.

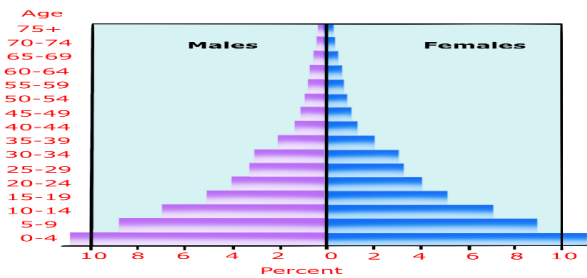


Fig. 6.2: Population Pyramid of Kenya

- In countries where death rates (especially amongst the very young) are decreasing, the pyramid is broad in the younger age groups, because more infants survive to adulthood. For example – India.

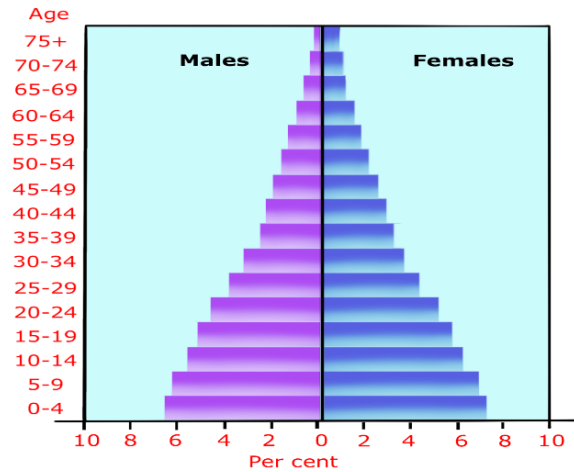


Fig. 6.3: Population pyramid of India

- In countries like Japan, low birth rates make the pyramid narrows at the base. More old age population due to decreased death rates.

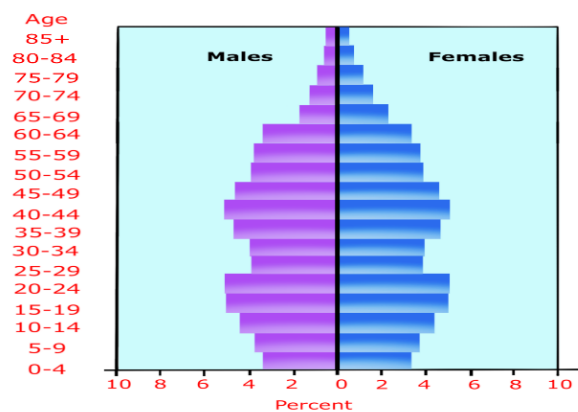


Fig. 6.4: Population Pyramid of Japan



Interesting Points:

- The **Ministry of Human Resource Development** was created in **1985** with an aim to improve people's skills.
- **Life expectancy:** It is the number of years that an average person can expect to live.
- **Average density** of population in India is **382** persons per square km.
- **Pradhan Mantri Kaushal Vikas Yojana (PMKVY):**
 - It was started in **2015** aiming to **train** one crore Indian youth from 2016 to 2020.
 - The objective of this scheme is to encourage aptitude towards employable skills by giving quality training to probable and existing wage earners.